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# Monthly Mean Values of Potential Temperature, Salinity and Sigma-Theta at Ocean Weather Ships Bravo, Charlie, Delta, and Echo

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May 1986

**Canadian Data Report of Hydrography and Ocean Sciences No. 44**

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## Canadian Data Report Of Hydrography and Ocean Sciences

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## Rapport statistique canadien sur l'hydrographie et les sciences océaniques

Les rapports statistiques servent de véhicule pour la compilation et la diffusion des données sous une forme directement utilisable par les scientifiques et les techniciens. En général, les rapports contiennent des données brutes ou analysées, mais ne fournissent pas d'interprétation des données. Ces compilations sont préparées le plus souvent à l'appui de travaux liés aux programmes et intérêts du service des Sciences et levés océaniques (SLO) du ministère des Pêches et des Océans.

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Les établissements des Sciences et levés océaniques dans les régions et à l'administration centrale ont cessé de publier leurs diverses séries de rapports en décembre 1981. Une liste complète de ces publications figure dans le volume 39, Index des publications 1982, du *Journal canadien des sciences halieutiques et aquatiques*. La série actuelle a commencé avec la publication du rapport numéro 1 en janvier 1982.

Canadian Data Report of

Hydrography and Ocean Sciences No. 44

May 1986

# MONTHLY MEAN VALUES OF POTENTIAL TEMPERATURE, SALINITY AND SIGMA-THETA AT OCEAN WEATHER SHIPS BRAVO, CHARLIE, DELTA, AND ECHO

by

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## ABSTRACT

Lazier, J.R.N. and Hackett, J.R. 1986. Monthly mean values of potential temperature, salinity and sigma-theta at ocean weather ships Bravo, Charlie, Delta, and Echo. Can. Data Rep. Hydrogr. Ocean Sci. No. 44: iv + 34 p.

Values of monthly mean potential temperature, salinity and sigma-theta at 11 depths, at and above 1500 m, from ocean weather ships Bravo, Charlie, Delta and Echo are presented in tables accompanied by graphs of some of the temperature and salinity values down to 1000 m.



## RESUME

Lazier, J.R.N. and Hackett, J.R. 1986. Monthly mean values of potential temperature, salinity and sigma-theta at ocean weather ships Bravo, Charlie, Delta, and Echo. Can. Data Rep. Hydrogr. Ocean Sci. No. 44: iv + 34 p.

Les valeurs mensuelles moyennes potentielles de la température, de la salinité et de sigma-théta pour 11 profondeurs au-dessus de 1 500 m obtenues des navires météorologiques Bravo, Charlie, Delta et Echo sont présentées sous forme de tableaux et accompagnées de graphiques pour certaines valeurs de la température et la salinité jusqu'à 1 000 m.

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## INTRODUCTION

Ocean Weather Ships (O.W.S.) Bravo, Charlie, Delta and Echo, Fig. 1, collected oceanographic data from January 5, 1964, to June 30, 1974; June 14, 1964, to December 31, 1973; March 28, 1963, to June 30, 1973; and June 29, 1963, to June 30, 1973, respectively. Details of the sampling procedures at the four stations have been published by Shuhy (1978), Hannon (1979), Jones (1979) and Longacre (1977).

The data were obtained from the National Oceanographic Data Centre, Washington, D.C. in 1974 and 75, and stored at B.I.O. in a compact non-standard format. Recently, the data were converted to the Atlantic Oceanographic Lab. Current Meter/C.T.D. format to make the data more accessible. The same aim motivated this report, which is a compilation of the monthly means of potential temperature, salinity and sigma-theta at 0, 25, 50, 75, 100, 200, 400, 600, 800, 1000, 1500 m for each month of the year for the four stations. The statistics were computed by summing all observations available for each month rather than by summing monthly averages. The data are listed, along with the standard deviations and the numbers of observations in the tables on pages 11-35. Plots, Figs. 2-7, of some of these data are presented to illustrate the seasonal changes at each location.

## ILLUSTRATIONS

Monthly mean surface values of temperature and salinity are plotted against each other, in Fig. 2, to compare the yearly excursions of these parameters and to show the relative positions of each station on the t-s plane. Stations Bravo and Charlie, both north of the "Polar Front", have surface

salinities less than 34.8 throughout the year. In winter the salinities differ by only 0.1, but Bravo has the larger annual excursion of 0.35, as opposed to 0.2 at Charlie, and in summer Bravo is 0.3 less than Charlie. The difference in range is presumably due to Bravo being closer to the seasonal low salinity outflow from the arctic in the Labrador Current.

Stations Delta and Echo, south of the "Polar Front", exhibit water properties of the subtropical gyre with surface salinities and temperatures above 35.2 and 14°C, respectively. The salinity range at Delta, 0.6, is the largest of all four stations and may indicate it is the most influenced by the low salinity waters of the Labrador Current moving into the deep ocean east of the Grand Banks of Newfoundland.

The annual temperature range at the first three stations are roughly the same, 6.3, 5.4 and 6.2°C. Echo is significantly higher at 8.2°C.

Fig. 3 presents the t-s curves for March, June, September and December at the four stations with the standard t-s curve of the western half of the subtropical gyre constructed by Armi and Bray (1982). At stations Delta and Echo the standard curve is followed below 100 m at all seasons, but at Bravo and Charlie all observations to 1500 m are lower in salinity than the standard curve.

The remaining four diagrams show monthly mean temperature and salinity vs depth curves at the end of the cooling season (March), the end of the heating season (September) and at the two intermediate months June and December, and time series plots of monthly mean temperature and salinity at 0, 50, 100, 200, 400 and 1000 m.

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Armi, L. and N.A. Bray, 1982. A standard analytic curve of potential temperature versus salinity for the western North Atlantic. J. phys. oceanogr., 12 (4): 384-387.

Hannon, L.J., 1979. North Atlantic Ocean Station Charlie Terminal Report 1964-1973. Oceanographic Report No. CG 373-79, U.S. Coast Guard Oceanographic Unit, Washington, D.C.

Jones, D., 1979. North Atlantic Ocean Station Delta Terminal Report 1966-1973. Oceanographic Report No. CG 373-80, U.S. Coast Guard Oceanographic Unit, Washington, D.C.

Longacre, A.W., 1977. North Atlantic Ocean Station Echo Terminal Report 1966-1973. Oceanographic Report No. CG 373-72, U.S. Coast Guard Oceanographic Unit, Washington, D.C.

Shuhy, J.L., 1978. North Atlantic Ocean Station Bravo Terminal Report 1964-1974. Oceanographic Report No. CG 373-78, U.S. Coast Guard Oceanographic Unit, Washington, D.C.

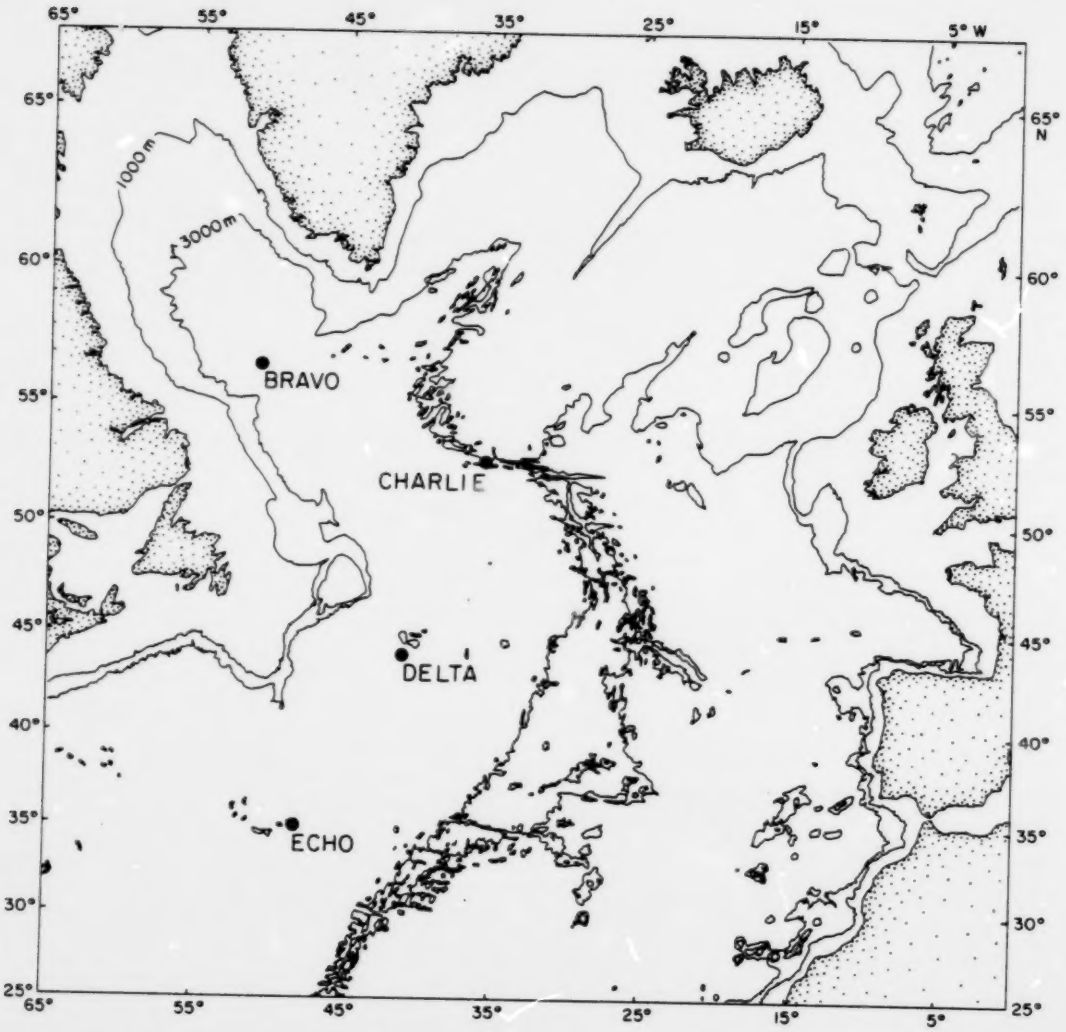


Fig. 1. Positions of ocean weather ships Bravo, Charlie, Delta and Echo.

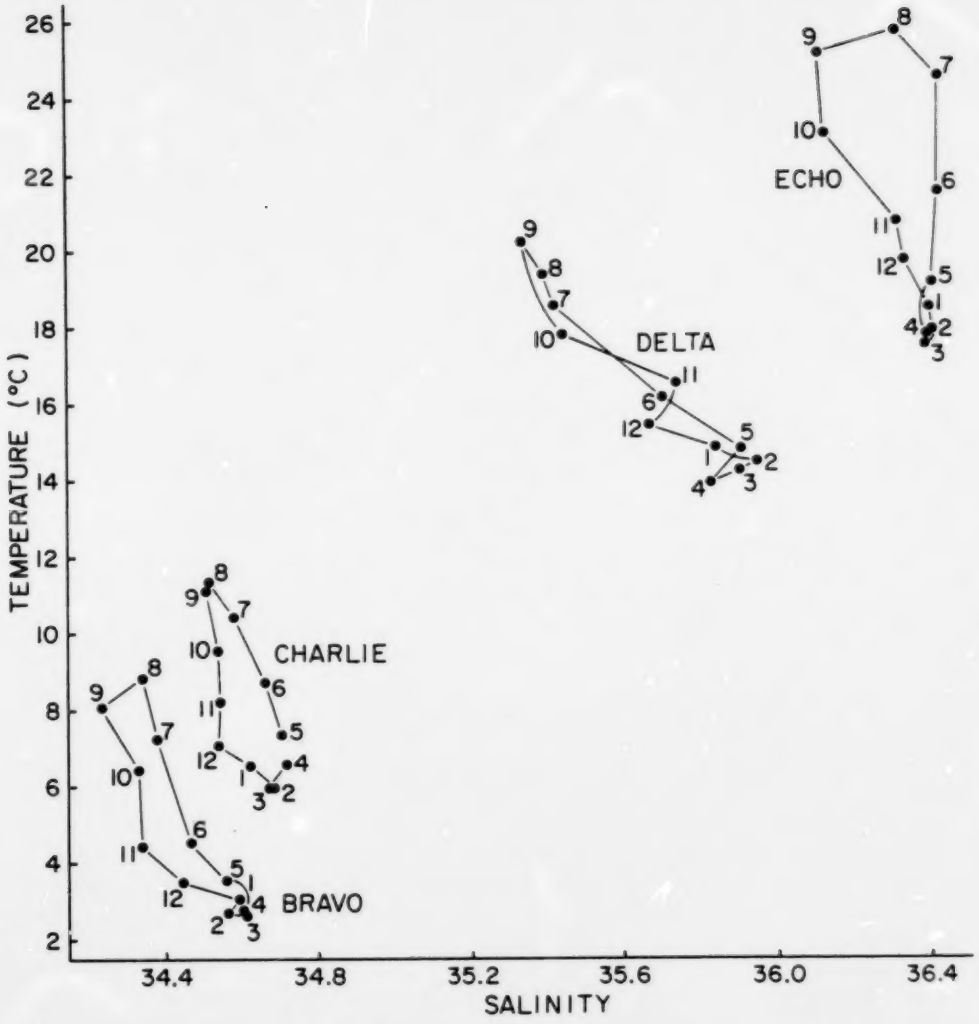


Fig. 2. Mean monthly (January = 1, December = 12) surface temperature and salinity values at the four weather ships.

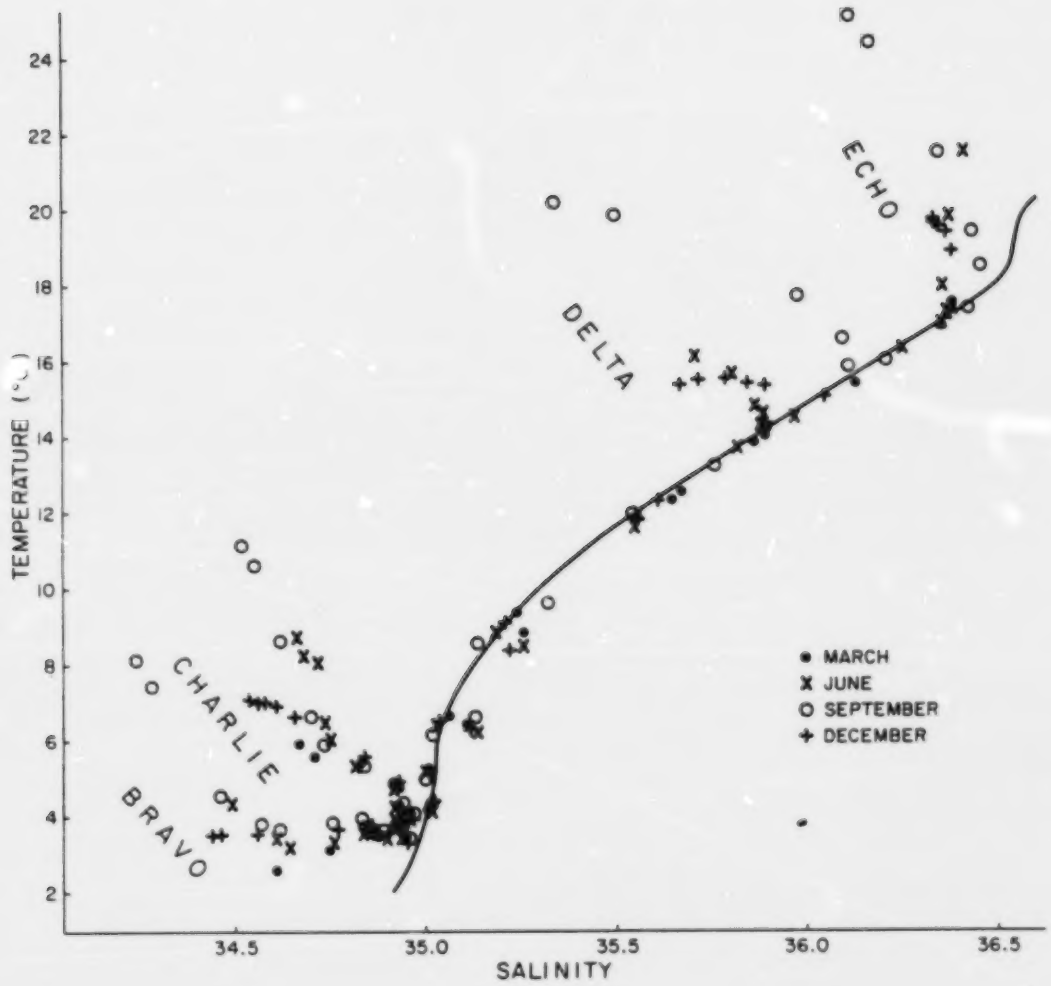


Fig. 3. Mean values of temperature and salinity between the surface and 1500 m during four months at the four weather ships. The smooth t-s curve is from Armi and Bray (1982).

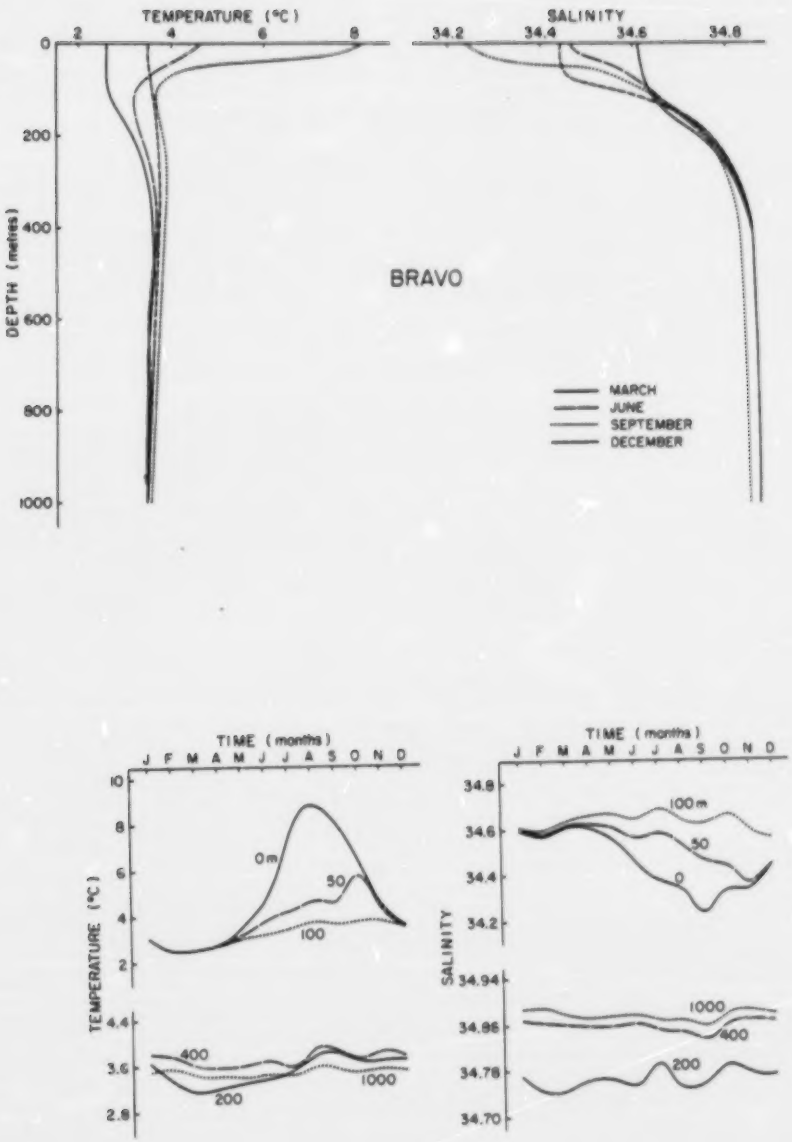


Fig. 4. Upper - monthly mean temperature and salinity at O.W.S. Bravo during March, June, September and December vs depth.

Lower - monthly mean temperature and salinity at 0, 50, 100, 200, 400 and 1000 m vs time.

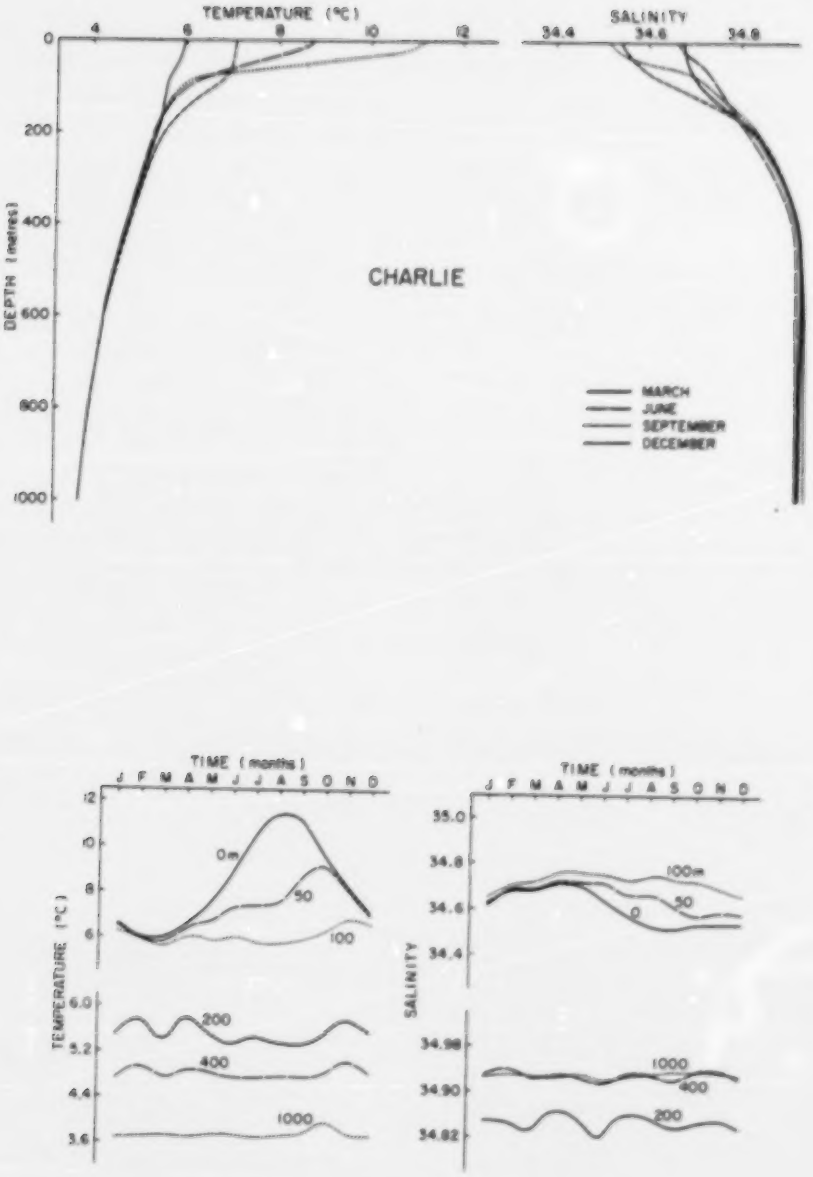


Fig. 5. Upper - monthly mean temperature and salinity at O.W.S. Charlie during March, June, September and December vs depth.

Lower - monthly mean temperature and salinity at 0, 50, 100, 200, 400 and 1000 m vs time.

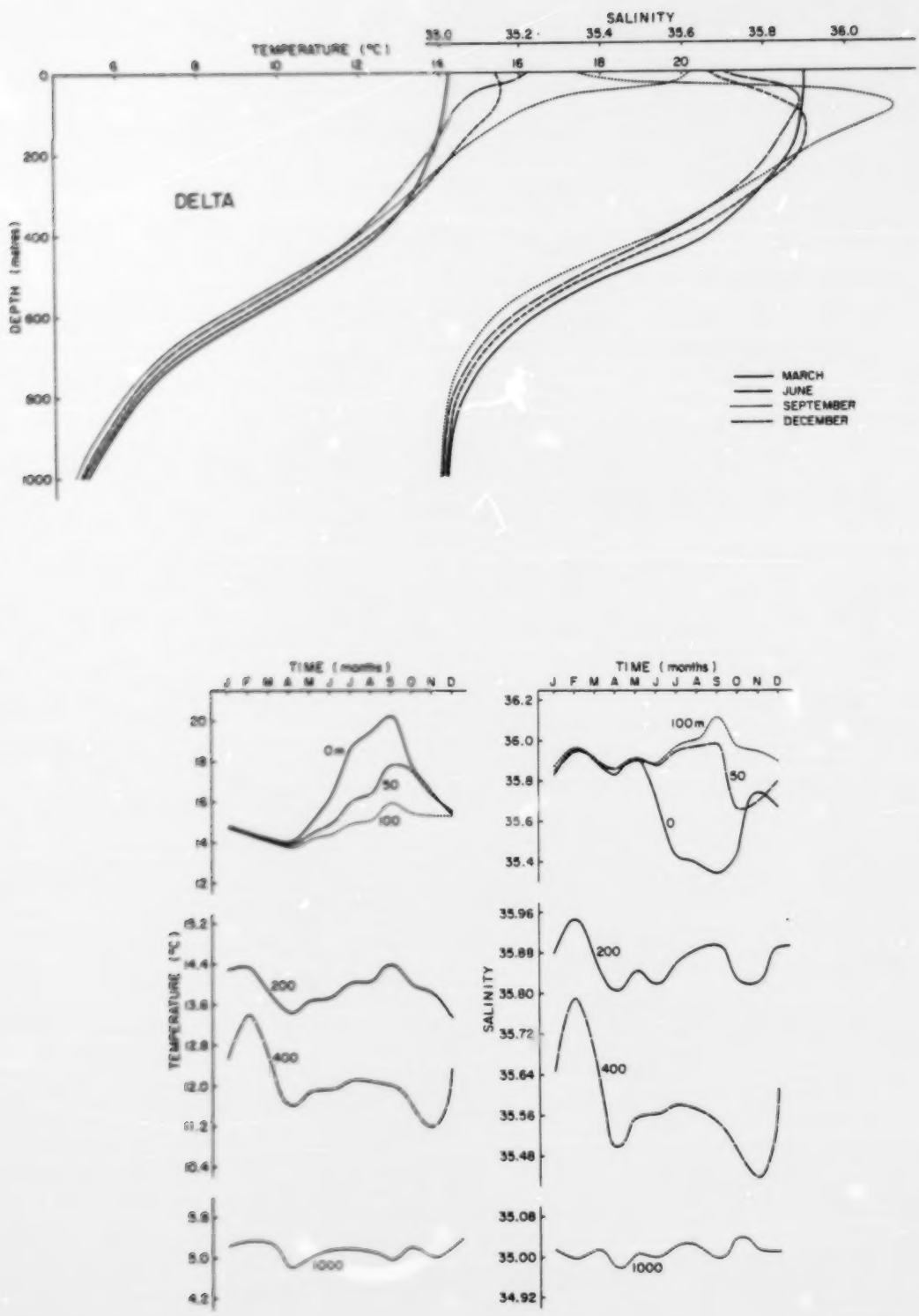


Fig. 6. Upper - monthly mean temperature and salinity at O.W.S. Delta during March, June, September and December vs depth.

Lower - monthly mean temperature and salinity at 0, 50, 100, 200, 400 and 1000 m vs time.

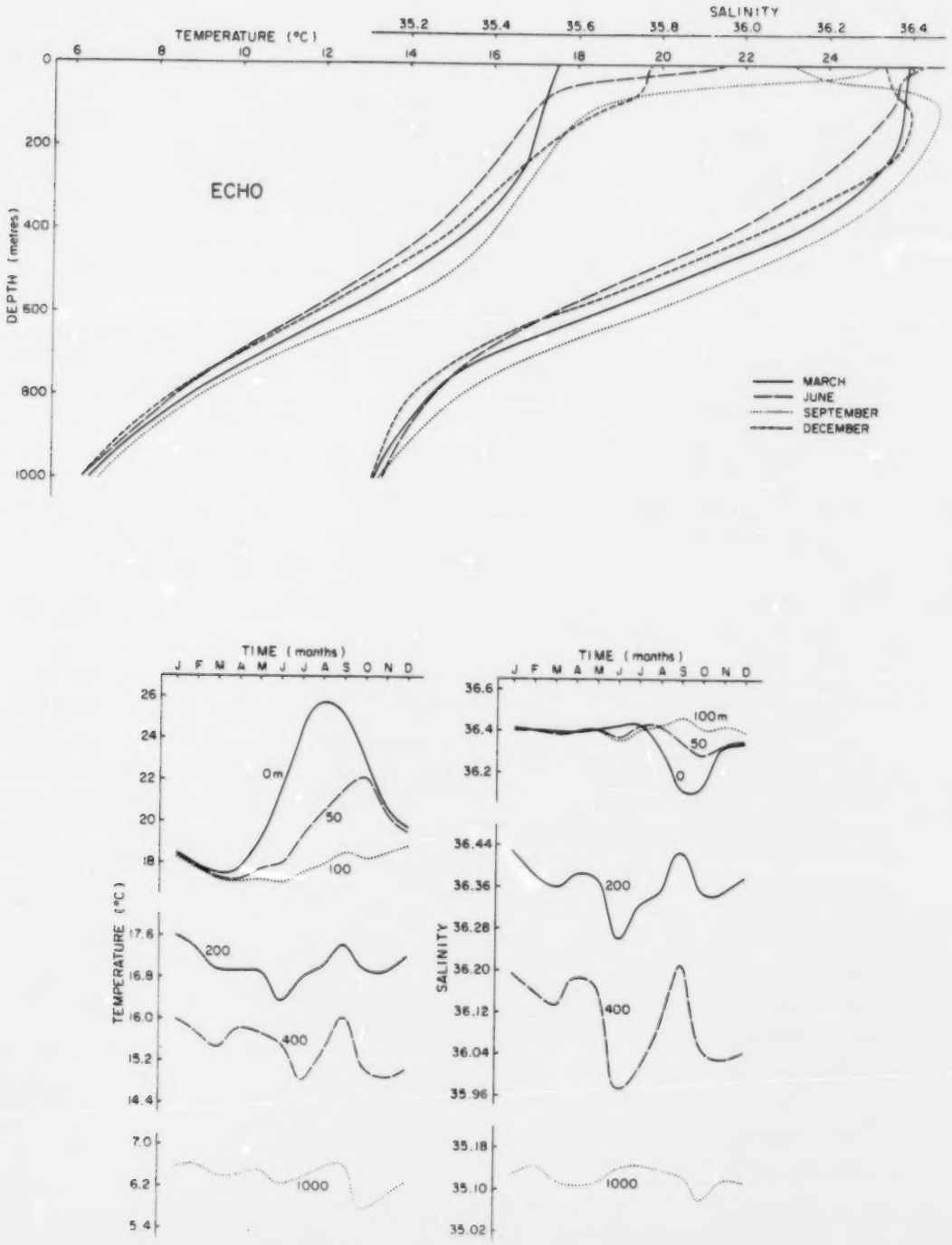


Fig. 7. Upper - monthly mean temperature and salinity at O.W.S. Echo during March, June, September and December vs depth.

Lower - monthly mean temperature and salinity at 0, 50, 100, 200, 400 and 1000 m vs time.

MONTHLY BOTTLE DATA STATISTICS FOR OWS - BRAVO

PARAMETER : THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **JAN** | | | | | | | | | | | |
| AVE | 3.065 | 3.068 | 3.061 | 3.074 | 3.107 | 3.663 | 3.816 | 3.687 | 3.590 | 3.514 | 3.430 |
| SDEV | .701 | .692 | .703 | .708 | .704 | .455 | .201 | .180 | .159 | .125 | .107 |
| N | 113 | 114 | 115 | 115 | 115 | 115 | 112 | 110 | 108 | 104 | 64 |
| **FEB** | | | | | | | | | | | |
| AVE | 2.476 | 2.504 | 2.517 | 2.557 | 2.591 | 3.320 | 3.769 | 3.731 | 3.630 | 3.554 | 3.498 |
| SDEV | .595 | .593 | .594 | .608 | .620 | .510 | .363 | .234 | .215 | .155 | .091 |
| N | 74 | 76 | 77 | 77 | 77 | 76 | 75 | 74 | 71 | 70 | 51 |
| **MAR** | | | | | | | | | | | |
| AVE | 2.609 | 2.613 | 2.617 | 2.617 | 2.631 | 3.140 | 3.596 | 3.536 | 3.473 | 3.423 | 3.423 |
| SDEV | .555 | .543 | .542 | .531 | .537 | .451 | .377 | .285 | .231 | .176 | .150 |
| N | 140 | 142 | 142 | 141 | 141 | 141 | 138 | 139 | 137 | 134 | 108 |
| **APR** | | | | | | | | | | | |
| AVE | 2.764 | 2.747 | 2.735 | 2.749 | 2.764 | 3.209 | 3.581 | 3.523 | 3.472 | 3.420 | 3.448 |
| SDEV | .465 | .453 | .463 | .468 | .492 | .443 | .396 | .310 | .239 | .196 | .120 |
| N | 224 | 224 | 223 | 223 | 222 | 221 | 221 | 218 | 217 | 213 | 165 |
| **MAY** | | | | | | | | | | | |
| AVE | 3.540 | 3.369 | 3.209 | 3.101 | 3.034 | 3.291 | 3.591 | 3.510 | 3.452 | 3.403 | 3.391 |
| SDEV | .765 | .624 | .491 | .447 | .437 | .376 | .380 | .311 | .258 | .214 | .158 |
| N | 236 | 236 | 236 | 236 | 236 | 235 | 233 | 233 | 232 | 221 | 180 |
| **JUN** | | | | | | | | | | | |
| AVE | 4.592 | 4.299 | 3.796 | 3.439 | 3.217 | 3.335 | 3.677 | 3.584 | 3.518 | 3.453 | 3.458 |
| SDEV | .941 | .867 | .708 | .540 | .438 | .308 | .313 | .270 | .221 | .170 | .146 |
| N | 222 | 218 | 218 | 218 | 218 | 217 | 217 | 216 | 213 | 210 | 178 |
| **JUL** | | | | | | | | | | | |
| AVE | 7.264 | 6.091 | 4.216 | 3.671 | 3.441 | 3.466 | 3.563 | 3.523 | 3.480 | 3.430 | 3.410 |
| SDEV | .909 | .872 | .657 | .523 | .445 | .352 | .313 | .287 | .236 | .172 | .120 |
| N | 180 | 175 | 175 | 175 | 175 | 175 | 175 | 174 | 174 | 171 | 128 |
| **AUG** | | | | | | | | | | | |
| AVE | 8.853 | 7.556 | 4.677 | 4.038 | 3.738 | 3.716 | 3.868 | 3.744 | 3.646 | 3.550 | 3.476 |
| SDEV | .763 | 1.240 | 1.362 | 1.348 | 1.357 | 1.231 | .978 | .811 | .636 | .459 | .092 |
| N | 190 | 184 | 184 | 184 | 182 | 181 | 181 | 180 | 180 | 178 | 149 |
| **SEP** | | | | | | | | | | | |
| AVE | 8.145 | 7.427 | 4.566 | 3.879 | 3.671 | 3.811 | 3.864 | 3.737 | 3.637 | 3.543 | 3.465 |
| SDEV | .987 | 1.058 | 1.493 | 1.306 | 1.260 | 1.096 | .915 | .776 | .634 | .501 | .258 |
| N | 175 | 173 | 174 | 174 | 174 | 174 | 174 | 174 | 172 | 162 | 124 |
| **OCT** | | | | | | | | | | | |
| AVE | 6.465 | 6.358 | 5.734 | 4.498 | 3.757 | 3.650 | 3.692 | 3.596 | 3.534 | 3.472 | 3.425 |
| SDEV | .885 | .917 | 1.090 | .919 | .584 | .286 | .238 | .217 | .201 | .164 | .143 |
| N | 115 | 115 | 115 | 115 | 114 | 112 | 108 | 108 | 107 | 104 | 72 |
| **NOV** | | | | | | | | | | | |
| AVE | 4.453 | 4.441 | 4.414 | 4.096 | 3.775 | 3.663 | 3.817 | 3.698 | 3.609 | 3.526 | 3.481 |
| SDEV | .688 | .683 | .664 | .566 | .511 | .344 | .206 | .189 | .172 | .129 | .087 |
| N | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 102 | 99 | 96 | 78 |
| **DEC** | | | | | | | | | | | |
| AVE | 3.514 | 3.510 | 3.514 | 3.527 | 3.578 | 3.684 | 3.739 | 3.642 | 3.575 | 3.497 | 3.493 |
| SDEV | .638 | .633 | .622 | .622 | .614 | .309 | .182 | .172 | .163 | .124 | .074 |
| N | 91 | 91 | 91 | 90 | 90 | 91 | 90 | 89 | 85 | 80 | 68 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - BRAVO

PARAMETER : SALINITY

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 34.595 | 34.594 | 34.598 | 34.605 | 34.617 | 34.771 | 34.869 | 34.880 | 34.883 | 34.886 | 34.901 |
| SDEV | .155 | .156 | .153 | .150 | .145 | .085 | .022 | .018 | .019 | .017 | .019 |
| N | 113 | 114 | 115 | 115 | 115 | 115 | 112 | 110 | 108 | 104 | 64 |
| FEB | | | | | | | | | | | |
| AVE | 34.566 | 34.576 | 34.578 | 34.589 | 34.597 | 34.743 | 34.863 | 34.884 | 34.889 | 34.889 | 34.910 |
| SDEV | .160 | .158 | .157 | .156 | .155 | .101 | .046 | .025 | .025 | .021 | .020 |
| N | 74 | 76 | 77 | 77 | 77 | 76 | 75 | 74 | 71 | 70 | 51 |
| MAR | | | | | | | | | | | |
| AVE | 34.611 | 34.616 | 34.620 | 34.627 | 34.638 | 34.747 | 34.860 | 34.872 | 34.876 | 34.876 | 34.900 |
| SDEV | .163 | .155 | .152 | .146 | .141 | .090 | .039 | .031 | .030 | .025 | .026 |
| N | 140 | 142 | 142 | 141 | 141 | 141 | 138 | 139 | 137 | 134 | 108 |
| APR | | | | | | | | | | | |
| AVE | 34.604 | 34.613 | 34.626 | 34.643 | 34.661 | 34.764 | 34.857 | 34.867 | 34.871 | 34.872 | 34.903 |
| SDEV | .162 | .159 | .156 | .151 | .144 | .088 | .038 | .035 | .031 | .029 | .021 |
| N | 224 | 224 | 223 | 223 | 222 | 221 | 221 | 218 | 217 | 213 | 165 |
| MAY | | | | | | | | | | | |
| AVE | 34.560 | 34.583 | 34.614 | 34.642 | 34.667 | 34.764 | 34.858 | 34.868 | 34.873 | 34.875 | 34.899 |
| SDEV | .157 | .141 | .132 | .126 | .123 | .078 | .035 | .035 | .032 | .029 | .032 |
| N | 236 | 236 | 236 | 236 | 236 | 235 | 233 | 233 | 232 | 221 | 180 |
| JUN | | | | | | | | | | | |
| AVE | 34.467 | 34.494 | 34.563 | 34.608 | 34.642 | 34.755 | 34.863 | 34.873 | 34.877 | 34.877 | 34.902 |
| SDEV | .195 | .186 | .146 | .132 | .127 | .076 | .031 | .031 | .029 | .025 | .027 |
| N | 222 | 218 | 218 | 218 | 218 | 217 | 217 | 216 | 213 | 210 | 178 |
| JUL | | | | | | | | | | | |
| AVE | 34.379 | 34.467 | 34.589 | 34.656 | 34.695 | 34.791 | 34.850 | 34.859 | 34.865 | 34.867 | 34.885 |
| SDEV | .206 | .217 | .145 | .123 | .120 | .079 | .042 | .038 | .034 | .027 | .026 |
| N | 180 | 175 | 175 | 175 | 175 | 175 | 175 | 174 | 174 | 171 | 128 |
| AUG | | | | | | | | | | | |
| AVE | 34.345 | 34.403 | 34.535 | 34.602 | 34.643 | 34.750 | 34.848 | 34.859 | 34.865 | 34.869 | 34.904 |
| SDEV | .175 | .159 | .159 | .149 | .155 | .144 | .121 | .102 | .081 | .060 | .020 |
| N | 190 | 184 | 184 | 184 | 182 | 181 | 181 | 180 | 180 | 178 | 149 |
| SEP | | | | | | | | | | | |
| AVE | 34.238 | 34.281 | 34.467 | 34.574 | 34.624 | 34.759 | 34.833 | 34.844 | 34.852 | 34.855 | 34.890 |
| SDEV | .133 | .133 | .152 | .150 | .158 | .150 | .135 | .116 | .097 | .078 | .049 |
| N | 175 | 173 | 174 | 174 | 174 | 174 | 174 | 174 | 172 | 162 | 124 |
| OCT | | | | | | | | | | | |
| AVE | 34.335 | 34.359 | 34.445 | 34.585 | 34.666 | 34.789 | 34.862 | 34.871 | 34.876 | 34.879 | 34.899 |
| SDEV | .201 | .192 | .191 | .146 | .120 | .062 | .023 | .023 | .025 | .022 | .026 |
| N | 115 | 115 | 115 | 115 | 114 | 112 | 108 | 108 | 107 | 104 | 72 |
| NOV | | | | | | | | | | | |
| AVE | 34.341 | 34.347 | 34.363 | 34.475 | 34.601 | 34.774 | 34.867 | 34.878 | 34.883 | 34.882 | 34.904 |
| SDEV | .172 | .171 | .163 | .159 | .144 | .070 | .022 | .022 | .025 | .023 | .025 |
| N | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 102 | 99 | 96 | 78 |
| DEC | | | | | | | | | | | |
| AVE | 34.445 | 34.443 | 34.448 | 34.468 | 34.563 | 34.772 | 34.864 | 34.874 | 34.877 | 34.877 | 34.900 |
| SDEV | .136 | .125 | .120 | .122 | .125 | .062 | .029 | .025 | .025 | .023 | .021 |
| N | 91 | 91 | 91 | 90 | 90 | 91 | 90 | 89 | 85 | 80 | 68 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - BRAVO

PARAMETER : SIG-THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 27.574 | 27.573 | 27.576 | 27.581 | 27.587 | 27.659 | 27.722 | 27.744 | 27.756 | 27.766 | 27.786 |
| SDEV | .079 | .080 | .078 | .074 | .069 | .038 | .022 | .017 | .014 | .012 | .011 |
| N | 113 | 114 | 115 | 115 | 115 | 115 | 112 | 110 | 108 | 104 | 64 |
| FEB | | | | | | | | | | | |
| AVE | 27.604 | 27.609 | 27.610 | 27.615 | 27.619 | 27.669 | 27.721 | 27.742 | 27.756 | 27.764 | 27.787 |
| SDEV | .087 | .082 | .081 | .079 | .078 | .052 | .024 | .016 | .013 | .010 | .011 |
| N | 74 | 76 | 77 | 77 | 77 | 76 | 75 | 74 | 71 | 70 | 51 |
| MAR | | | | | | | | | | | |
| AVE | 27.629 | 27.632 | 27.636 | 27.641 | 27.648 | 27.690 | 27.737 | 27.753 | 27.761 | 27.767 | 27.786 |
| SDEV | .093 | .089 | .086 | .082 | .077 | .051 | .019 | .013 | .011 | .011 | .011 |
| N | 140 | 142 | 142 | 141 | 141 | 141 | 138 | 139 | 137 | 134 | 108 |
| APR | | | | | | | | | | | |
| AVE | 27.610 | 27.619 | 27.631 | 27.642 | 27.655 | 27.697 | 27.736 | 27.750 | 27.758 | 27.764 | 27.786 |
| SDEV | .107 | .104 | .098 | .091 | .081 | .052 | .026 | .020 | .017 | .016 | .014 |
| N | 224 | 224 | 223 | 223 | 222 | 221 | 221 | 218 | 217 | 213 | 165 |
| MAY | | | | | | | | | | | |
| AVE | 27.500 | 27.537 | 27.577 | 27.610 | 27.637 | 27.689 | 27.735 | 27.752 | 27.761 | 27.768 | 27.788 |
| SDEV | .122 | .101 | .096 | .087 | .078 | .049 | .019 | .015 | .010 | .009 | .014 |
| N | 236 | 236 | 236 | 236 | 236 | 235 | 233 | 233 | 232 | 221 | 180 |
| JUN | | | | | | | | | | | |
| AVE | 27.314 | 27.369 | 27.478 | 27.550 | 27.600 | 27.679 | 27.731 | 27.748 | 27.758 | 27.764 | 27.784 |
| SDEV | .155 | .141 | .116 | .099 | .087 | .049 | .019 | .012 | .009 | .009 | .011 |
| N | 222 | 218 | 218 | 218 | 218 | 217 | 217 | 216 | 213 | 210 | 178 |
| JUL | | | | | | | | | | | |
| AVE | 26.909 | 27.134 | 27.454 | 27.565 | 27.620 | 27.694 | 27.732 | 27.743 | 27.752 | 27.759 | 27.776 |
| SDEV | .256 | .182 | .110 | .096 | .095 | .072 | .053 | .042 | .033 | .024 | .014 |
| N | 180 | 175 | 175 | 175 | 17[illegible] | 175 | 175 | 174 | 174 | 171 | 128 |
| AUG | | | | | | | | | | | |
| AVE | 26.646 | 26.877 | 27.353 | 27.476 | 27.539 | 27.628 | 27.693 | 27.715 | 27.732 | 27.745 | 27.784 |
| SDEV | .185 | .235 | .257 | .263 | .271 | .262 | .228 | .189 | .149 | .108 | .011 |
| N | 190 | 184 | 184 | 184 | 182 | 181 | 181 | 180 | 180 | 178 | 149 |
| SEP | | | | | | | | | | | |
| AVE | 26.669 | 26.803 | 27.309 | 27.471 | 27.532 | 27.627 | 27.682 | 27.705 | 27.722 | 27.735 | 27.773 |
| SDEV | .195 | .204 | .272 | .259 | .262 | .255 | .225 | .190 | .156 | .124 | .064 |
| N | 175 | 173 | 174 | 174 | 174 | 174 | 174 | 174 | 172 | 162 | 124 |
| OCT | | | | | | | | | | | |
| AVE | 26.984 | 27.016 | 27.161 | 27.415 | 27.564 | 27.675 | 27.729 | 27.746 | 27.756 | 27.764 | 27.785 |
| SDEV | .153 | .152 | .209 | .151 | .088 | .039 | .017 | .014 | .012 | .011 | .011 |
| N | 115 | 115 | 115 | 115 | 114 | 112 | 108 | 108 | 107 | 104 | 72 |
| NOV | | | | | | | | | | | |
| AVE | 27.233 | 27.239 | 27.254 | 27.378 | 27.511 | 27.661 | 27.720 | 27.741 | 27.754 | 27.761 | 27.783 |
| SDEV | .152 | .152 | .142 | .127 | .106 | .037 | .018 | .016 | .014 | .013 | .015 |
| N | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 102 | 99 | 96 | 78 |
| DEC | | | | | | | | | | | |
| AVE | 27.413 | 27.411 | 27.415 | 27.430 | 27.500 | 27.658 | 27.726 | 27.743 | 27.753 | 27.761 | 27.780 |
| SDEV | .129 | .118 | .115 | .116 | .108 | .052 | .026 | .021 | .018 | .016 | .013 |
| N | 91 | 91 | 91 | 90 | 90 | 91 | 90 | 89 | 85 | 80 | 68 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - CHARLIE

PARAMETER : THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 6.608 | 6.627 | 6.564 | 6.425 | 6.286 | 5.504 | 4.720 | 4.216 | 3.896 | 3.697 | 3.416 |
| SDEV | .895 | .865 | .759 | .533 | .497 | .474 | .298 | .159 | .095 | .064 | .034 |
| N | 49 | 48 | 48 | 48 | 48 | 47 | 47 | 47 | 45 | 42 | 31 |
| FEB | | | | | | | | | | | |
| AVE | 5.964 | 5.971 | 5.958 | 5.954 | 5.942 | 5.750 | 4.943 | 4.348 | 3.948 | 3.712 | 3.403 |
| SDEV | .457 | .441 | .411 | .383 | .370 | .319 | .254 | .162 | .099 | .064 | .031 |
| N | 76 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 72 | 70 | 58 |
| MAR | | | | | | | | | | | |
| AVE | 5.967 | 5.923 | 5.825 | 5.675 | 5.575 | 5.406 | 4.758 | 4.272 | 3.945 | 3.736 | 3.443 |
| SDEV | .779 | .750 | .687 | .603 | .548 | .565 | .285 | .173 | .106 | .062 | .046 |
| N | 109 | 110 | 110 | 110 | 110 | 108 | 108 | 108 | 107 | 106 | 88 |
| APR | | | | | | | | | | | |
| AVE | 6.533 | 6.457 | 6.326 | 6.164 | 5.998 | 5.795 | 4.867 | 4.310 | 3.937 | 3.703 | 3.398 |
| SDEV | .505 | .511 | .482 | .459 | .450 | .505 | .238 | .150 | .114 | .088 | .061 |
| N | 144 | 142 | 142 | 142 | 142 | 143 | 143 | 141 | 138 | 137 | 112 |
| MAY | | | | | | | | | | | |
| AVE | 7.338 | 7.107 | 6.652 | 6.110 | 5.851 | 5.526 | 4.838 | 4.332 | 3.969 | 3.739 | 3.416 |
| SDEV | .813 | .747 | .709 | .563 | .570 | .588 | .270 | .155 | .103 | .072 | .053 |
| N | 161 | 158 | 159 | 159 | 159 | 158 | 156 | 156 | 150 | 140 | 118 |
| JUN | | | | | | | | | | | |
| AVE | 8.767 | 8.242 | 7.291 | 6.473 | 6.004 | 5.323 | 4.737 | 4.253 | 3.945 | 3.754 | 3.450 |
| SDEV | .868 | .798 | .913 | .896 | .803 | .590 | .394 | .255 | .187 | .134 | .063 |
| N | 188 | 188 | 188 | 188 | 188 | 186 | 186 | 186 | 185 | 183 | 152 |
| JUL | | | | | | | | | | | |
| AVE | 10.415 | 9.258 | 7.391 | 6.284 | 5.794 | 5.458 | 4.749 | 4.246 | 3.912 | 3.703 | 3.398 |
| SDEV | .963 | .873 | .659 | .557 | .516 | .645 | .336 | .217 | .135 | .094 | .053 |
| N | 149 | 147 | 147 | 147 | 147 | 146 | 146 | 146 | 143 | 137 | 98 |
| AUG | | | | | | | | | | | |
| AVE | 11.391 | 10.251 | 7.498 | 6.223 | 5.746 | 5.351 | 4.764 | 4.290 | 3.946 | 3.725 | 3.399 |
| SDEV | .611 | 1.221 | 1.209 | .809 | .730 | .790 | .431 | .200 | .130 | .088 | .053 |
| N | 168 | 163 | 163 | 163 | 163 | 163 | 163 | 162 | 160 | 158 | 136 |
| SEP | | | | | | | | | | | |
| AVE | 11.164 | 10.634 | 8.615 | 6.609 | 5.914 | 5.335 | 4.748 | 4.303 | 3.986 | 3.765 | 3.436 |
| SDEV | .536 | 1.114 | 1.592 | .980 | .913 | .909 | .654 | .470 | .365 | .275 | .130 |
| N | 120 | 96 | 96 | 95 | 95 | 95 | 92 | 90 | 88 | 86 | 65 |
| OCT | | | | | | | | | | | |
| AVE | 9.587 | 9.543 | 9.123 | 7.148 | 6.281 | 5.490 | 4.833 | 4.312 | 3.977 | 3.973 | 3.411 |
| SDEV | .581 | .554 | .744 | .946 | .731 | .585 | .365 | .201 | .133 | 2.667 | .061 |
| N | 144 | 143 | 143 | 143 | 143 | 143 | 141 | 140 | 140 | 137 | 124 |
| NOV | | | | | | | | | | | |
| AVE | 8.260 | 8.188 | 8.089 | 7.519 | 6.815 | 5.763 | 5.040 | 4.449 | 4.036 | 3.779 | 3.403 |
| SDEV | .508 | .516 | .505 | .719 | .764 | .619 | .468 | .324 | .242 | .182 | .057 |
| N | 79 | 77 | 77 | 77 | 77 | 77 | 76 | 74 | 74 | 74 | 55 |
| DEC | | | | | | | | | | | |
| AVE | 7.066 | 7.025 | 7.004 | 6.884 | 6.616 | 5.557 | 4.843 | 4.288 | 3.959 | 3.746 | 3.458 |
| SDEV | .746 | .714 | .663 | .607 | .684 | .631 | .435 | .222 | .137 | .096 | .092 |
| N | 47 | 47 | 47 | 47 | 47 | 47 | 46 | 45 | 44 | 44 | 23 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - CHARLIE

PARAMETER : SALINITY

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 34.624 | 34.623 | 34.619 | 34.619 | 34.659 | 34.849 | 34.932 | 34.934 | 34.928 | 34.927 | 34.948 |
| SDEV | .090 | .089 | .084 | .070 | .053 | .036 | .019 | .017 | .013 | .011 | .013 |
| N | 49 | 48 | 48 | 48 | 48 | 47 | 47 | 47 | 45 | 42 | 31 |
| FEB | | | | | | | | | | | |
| AVE | 34.682 | 34.683 | 34.688 | 34.693 | 34.702 | 34.847 | 34.941 | 34.945 | 34.935 | 34.930 | 34.958 |
| SDEV | .046 | .043 | .038 | .037 | .039 | .059 | .027 | .021 | .017 | .015 | .014 |
| N | 76 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 72 | 70 | 58 |
| MAR | | | | | | | | | | | |
| AVE | 34.677 | 34.679 | 34.687 | 34.695 | 34.714 | 34.833 | 34.925 | 34.931 | 34.928 | 34.927 | 34.949 |
| SDEV | .045 | .047 | .050 | .055 | .057 | .062 | .026 | .018 | .016 | .013 | .014 |
| N | 109 | 110 | 110 | 110 | 110 | 108 | 108 | 108 | 107 | 106 | 88 |
| APR | | | | | | | | | | | |
| AVE | 34.710 | 34.719 | 34.724 | 34.740 | 34.759 | 34.865 | 34.931 | 34.939 | 34.931 | 34.927 | 34.952 |
| SDEV | .100 | .058 | .058 | .058 | .061 | .062 | .024 | .019 | .017 | .016 | .016 |
| N | 144 | 142 | 142 | 142 | 142 | 143 | 143 | 141 | 138 | 137 | 112 |
| MAY | | | | | | | | | | | |
| AVE | 34.706 | 34.710 | 34.718 | 34.736 | 34.757 | 34.856 | 34.927 | 34.943 | 34.936 | 34.932 | 34.951 |
| SDEV | .052 | .052 | .054 | .054 | .059 | .060 | .029 | .021 | .018 | .016 | .013 |
| N | 161 | 158 | 159 | 159 | 159 | 158 | 156 | 156 | 150 | 140 | 118 |
| JUN | | | | | | | | | | | |
| AVE | 34.664 | 34.680 | 34.719 | 34.738 | 34.750 | 34.820 | 34.915 | 34.924 | 34.921 | 34.921 | 34.939 |
| SDEV | .101 | .104 | .096 | .090 | .078 | .057 | .033 | .027 | .023 | .018 | .012 |
| N | 188 | 188 | 188 | 188 | 188 | 186 | 186 | 186 | 185 | 183 | 152 |
| JUL | | | | | | | | | | | |
| AVE | 34.581 | 34.606 | 34.662 | 34.700 | 34.727 | 34.859 | 34.931 | 34.936 | 34.931 | 34.929 | 34.948 |
| SDEV | .080 | .064 | .052 | .053 | .052 | .073 | .038 | .023 | .020 | .018 | .018 |
| N | 149 | 147 | 147 | 147 | 147 | 146 | 146 | 146 | 143 | 137 | 98 |
| AUG | | | | | | | | | | | |
| AVE | 34.529 | 34.565 | 34.665 | 34.718 | 34.747 | 34.859 | 34.934 | 34.943 | 34.936 | 34.933 | 34.951 |
| SDEV | .092 | .081 | .080 | .057 | .050 | .067 | .045 | .029 | .021 | .015 | .013 |
| N | 168 | 163 | 163 | 163 | 163 | 163 | 163 | 162 | 160 | 158 | 136 |
| SEP | | | | | | | | | | | |
| AVE | 34.518 | 34.545 | 34.622 | 34.702 | 34.735 | 34.840 | 34.922 | 34.941 | 34.938 | 34.938 | 34.963 |
| SDEV | .090 | .091 | .085 | .074 | .076 | .072 | .067 | .064 | .067 | .073 | .098 |
| N | 120 | 96 | 96 | 95 | 95 | 95 | 92 | 90 | 88 | 86 | 65 |
| OCT | | | | | | | | | | | |
| AVE | 34.539 | 34.551 | 34.577 | 34.666 | 34.726 | 34.845 | 34.936 | 34.947 | 34.942 | 34.937 | 34.954 |
| SDEV | .097 | .091 | .084 | .073 | .065 | .054 | .031 | .022 | .018 | .016 | .017 |
| N | 144 | 143 | 143 | 143 | 143 | 143 | 141 | 140 | 140 | 137 | 124 |
| NOV | | | | | | | | | | | |
| AVE | 34.541 | 34.562 | 34.590 | 34.640 | 34.698 | 34.852 | 34.940 | 34.951 | 34.943 | 34.937 | 34.956 |
| SDEV | .120 | .104 | .084 | .069 | .075 | .067 | .046 | .030 | .022 | .017 | .018 |
| N | 79 | 77 | 77 | 77 | 77 | 77 | 76 | 74 | 74 | 74 | 55 |
| DEC | | | | | | | | | | | |
| AVE | 34.543 | 34.558 | 34.582 | 34.610 | 34.666 | 34.840 | 34.928 | 34.938 | 34.932 | 34.929 | 34.946 |
| SDEV | .114 | .098 | .084 | .080 | .074 | .060 | .034 | .020 | .015 | .019 | .017 |
| N | 47 | 47 | 47 | 47 | 47 | 47 | 46 | 45 | 44 | 44 | 23 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - CHARLIE

PARAMETER : SIG-THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 27.192 | 27.189 | 27.195 | 27.216 | 27.265 | 27.515 | 27.674 | 27.731 | 27.761 | 27.780 | 27.825 |
| SDEV | .092 | .087 | .078 | .058 | .056 | .052 | .022 | .012 | .008 | .007 | .011 |
| N | 49 | 48 | 48 | 48 | 48 | 47 | 47 | 47 | 45 | 42 | 31 |
| FEB | | | | | | | | | | | |
| AVE | 27.326 | 27.326 | 27.331 | 27.336 | 27.345 | 27.483 | 27.656 | 27.726 | 27.761 | 27.782 | 27.834 |
| SDEV | .077 | .072 | .069 | .067 | .066 | .029 | .020 | .013 | .011 | .011 | .012 |
| N | 76 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 72 | 70 | 58 |
| MAR | | | | | | | | | | | |
| AVE | 27.319 | 27.327 | 27.346 | 27.371 | 27.399 | 27.514 | 27.664 | 27.723 | 27.755 | 27.776 | 27.823 |
| SDEV | .118 | .114 | .105 | .093 | .080 | .045 | .023 | .015 | .011 | .010 | .013 |
| N | 109 | 110 | 110 | 110 | 110 | 108 | 108 | 108 | 107 | 106 | 88 |
| APR | | | | | | | | | | | |
| AVE | 27.273 | 27.291 | 27.312 | 27.346 | 27.382 | 27.491 | 27.657 | 27.726 | 27.759 | 27.780 | 27.830 |
| SDEV | .112 | .086 | .077 | .069 | .060 | .044 | .022 | .014 | .013 | .012 | .014 |
| N | 144 | 142 | 142 | 142 | 142 | 143 | 143 | 141 | 138 | 137 | 112 |
| MAY | | | | | | | | | | | |
| AVE | 27.157 | 27.192 | 27.262 | 27.349 | 27.398 | 27.517 | 27.656 | 27.726 | 27.760 | 27.780 | 27.827 |
| SDEV | .123 | .113 | .104 | .079 | .073 | .039 | .025 | .013 | .010 | .009 | .011 |
| N | 161 | 158 | 159 | 159 | 159 | 158 | 156 | 156 | 150 | 140 | 118 |
| JUN | | | | | | | | | | | |
| AVE | 26.908 | 27.002 | 27.172 | 27.300 | 27.371 | 27.513 | 27.658 | 27.720 | 27.750 | 27.770 | 27.814 |
| SDEV | .156 | .129 | .113 | .099 | .086 | .058 | .046 | .035 | .028 | .022 | .012 |
| N | 188 | 188 | 188 | 188 | 188 | 186 | 186 | 186 | 185 | 183 | 152 |
| JUL | | | | | | | | | | | |
| AVE | 26.568 | 26.782 | 27.115 | 27.298 | 27.382 | 27.528 | 27.670 | 27.730 | 27.762 | 27.781 | 27.827 |
| SDEV | .205 | .165 | .096 | .070 | .057 | .052 | .030 | .022 | .016 | .014 | .016 |
| N | 149 | 147 | 147 | 147 | 147 | 146 | 146 | 146 | 143 | 137 | 98 |
| AUG | | | | | | | | | | | |
| AVE | 26.354 | 26.578 | 27.094 | 27.318 | 27.402 | 27.539 | 27.669 | 27.731 | 27.762 | 27.782 | 27.829 |
| SDEV | .166 | .226 | .203 | .110 | .084 | .056 | .032 | .019 | .014 | .011 | .012 |
| N | 168 | 163 | 163 | 163 | 163 | 163 | 163 | 162 | 160 | 158 | 136 |
| SEP | | | | | | | | | | | |
| AVE | 26.389 | 26.498 | 26.885 | 27.249 | 27.370 | 27.524 | 27.660 | 27.726 | 27.757 | 27.781 | 27.835 |
| SDEV | .137 | .217 | .284 | .158 | .132 | .121 | .108 | .095 | .081 | .071 | .066 |
| N | 120 | 96 | 96 | 95 | 95 | 95 | 92 | 90 | 88 | 86 | 65 |
| OCT | | | | | | | | | | | |
| AVE | 26.680 | 26.696 | 26.783 | 27.150 | 27.318 | 27.513 | 27.663 | 27.731 | 27.763 | 27.723 | 27.830 |
| SDEV | .132 | .123 | .134 | .146 | .096 | .047 | .028 | .013 | .011 | .709 | .015 |
| N | 144 | 143 | 143 | 143 | 143 | 143 | 141 | 140 | 140 | 137 | 124 |
| NOV | | | | | | | | | | | |
| AVE | 26.893 | 26.920 | 26.957 | 27.078 | 27.223 | 27.483 | 27.642 | 27.719 | 27.758 | 27.779 | 27.832 |
| SDEV | .140 | .127 | .112 | .119 | .132 | .091 | .076 | .058 | .044 | .032 | .015 |
| N | 79 | 77 | 77 | 77 | 77 | 77 | 76 | 74 | 74 | 74 | 55 |
| DEC | | | | | | | | | | | |
| AVE | 27.068 | 27.085 | 27.107 | 27.146 | 27.225 | 27.500 | 27.656 | 27.727 | 27.757 | 27.777 | 27.819 |
| SDEV | .141 | .124 | .098 | .081 | .089 | .067 | .041 | .020 | .016 | .015 | .017 |
| N | 47 | 47 | 47 | 47 | 47 | 47 | 46 | 45 | 44 | 44 | 23 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - DELTA

PARAMETER : THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 14.857 | 14.812 | 14.786 | 14.795 | 14.781 | 14.276 | 12.525 | 9.249 | 6.480 | 5.231 | 4.023 |
| SDEV | .730 | .775 | .754 | .755 | .798 | .892 | 1.037 | 1.207 | .812 | .474 | .200 |
| N | 46 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 40 | 38 | 17 |
| FEB | | | | | | | | | | | |
| AVE | 14.488 | 14.475 | 14.459 | 14.462 | 14.456 | 14.338 | 13.417 | 10.736 | 7.290 | 5.333 | 4.086 |
| SDEV | .247 | .279 | .328 | .339 | .343 | .461 | 1.204 | 1.738 | 1.027 | .445 | .126 |
| N | 54 | 55 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 54 | 41 |
| MAR | | | | | | | | | | | |
| AVE | 14.248 | 14.215 | 14.184 | 14.137 | 14.094 | 13.836 | 12.524 | 9.373 | 6.618 | 5.291 | 4.020 |
| SDEV | .796 | .805 | .811 | .793 | .790 | .778 | 1.187 | 1.198 | .965 | .819 | .303 |
| N | 61 | 60 | 60 | 60 | 60 | 59 | 57 | 55 | 53 | 51 | 22 |
| APR | | | | | | | | | | | |
| AVE | 13.955 | 13.896 | 13.844 | 13.809 | 13.755 | 13.426 | 11.620 | 7.998 | 5.731 | 4.794 | 3.841 |
| SDEV | .920 | .899 | .846 | .695 | .669 | .685 | 1.187 | .974 | .386 | .219 | .099 |
| N | 92 | 92 | 93 | 93 | 93 | 93 | 92 | 92 | 91 | 87 | 68 |
| MAY | | | | | | | | | | | |
| AVE | 14.859 | 14.612 | 14.386 | 14.251 | 14.128 | 13.678 | 11.892 | 8.464 | 6.080 | 4.995 | 3.883 |
| SDEV | .754 | .645 | .657 | .584 | .505 | .458 | .919 | .978 | .794 | .583 | .131 |
| N | 103 | 105 | 105 | 105 | 105 | 105 | 102 | 101 | 100 | 98 | 63 |
| JUN | | | | | | | | | | | |
| AVE | 16.195 | 15.688 | 14.875 | 14.623 | 14.377 | 13.743 | 11.941 | 8.840 | 6.383 | 5.140 | 3.913 |
| SDEV | 1.006 | .790 | .832 | .773 | .796 | .652 | 1.658 | 1.492 | .926 | .655 | .120 |
| N | 98 | 96 | 99 | 99 | 99 | 99 | 97 | 94 | 89 | 88 | 57 |
| JUL | | | | | | | | | | | |
| AVE | 18.588 | 17.722 | 15.978 | 15.288 | 14.937 | 14.021 | 12.120 | 8.778 | 6.313 | 5.169 | 3.958 |
| SDEV | 2.289 | 1.594 | 1.360 | 1.021 | .906 | .920 | 1.354 | 1.335 | .859 | .505 | .137 |
| N | 123 | 122 | 123 | 123 | 123 | 123 | 123 | 122 | 120 | 118 | 82 |
| AUG | | | | | | | | | | | |
| AVE | 19.378 | 18.532 | 16.335 | 15.557 | 15.074 | 14.069 | 12.079 | 8.700 | 6.308 | 5.114 | 3.927 |
| SDEV | 1.573 | 1.537 | 1.402 | 1.235 | 1.185 | 1.122 | 1.319 | 1.309 | .864 | .446 | .153 |
| N | 103 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 105 | 76 |
| SEP | | | | | | | | | | | |
| AVE | 20.225 | 19.869 | 17.759 | 16.592 | 15.977 | 14.396 | 12.023 | 8.552 | 6.141 | 4.953 | 3.913 |
| SDEV | 2.004 | 1.877 | 1.504 | 1.207 | 1.113 | .703 | .846 | 1.134 | .781 | .344 | .126 |
| N | 94 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 94 | 59 |
| OCT | | | | | | | | | | | |
| AVE | 17.805 | 17.826 | 17.571 | 16.430 | 15.425 | 13.980 | 11.609 | 8.323 | 6.242 | 5.195 | 3.877 |
| SDEV | 1.086 | 1.163 | 1.065 | 1.257 | 1.386 | 1.038 | 1.104 | 1.233 | .961 | .725 | .158 |
| N | 125 | 124 | 126 | 126 | 125 | 124 | 124 | 124 | 122 | 118 | 85 |
| NOV | | | | | | | | | | | |
| AVE | 16.534 | 16.618 | 16.388 | 16.065 | 15.350 | 13.846 | 11.189 | 7.886 | 5.942 | 4.998 | 3.874 |
| SDEV | .883 | 1.179 | 1.039 | 1.023 | 1.181 | 1.010 | 1.245 | 1.286 | .832 | .559 | .134 |
| N | 96 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 50 | 49 | 28 |
| DEC | | | | | | | | | | | |
| AVE | 15.405 | 15.536 | 15.544 | 15.453 | 15.321 | 14.354 | 12.324 | 9.122 | 6.488 | 5.189 | 3.910 |
| SDEV | 1.240 | 1.169 | 1.130 | 1.051 | 1.053 | .825 | 1.085 | 1.401 | .926 | .516 | .147 |
| N | 70 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 62 | 61 | 36 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - DELTA

PARAMETER : SALINITY

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **JAN** | | | | | | | | | | | |
| AVE | 35.836 | 35.832 | 35.829 | 35.848 | 35.873 | 35.884 | 35.644 | 35.220 | 35.041 | 35.012 | 34.966 |
| SDEV | .194 | .194 | .193 | .174 | .161 | .153 | .167 | .148 | .078 | .042 | .020 |
| N | 46 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 40 | 38 | 17 |
| **FEB** | | | | | | | | | | | |
| AVE | 35.949 | 35.953 | 35.955 | 35.959 | 35.961 | 35.946 | 35.792 | 35.412 | 35.069 | 34.996 | 34.989 |
| SDEV | .062 | .061 | .062 | .063 | .063 | .088 | .209 | .212 | .053 | .040 | .034 |
| N | 54 | 55 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 54 | 41 |
| **MAR** | | | | | | | | | | | |
| AVE | 35.902 | 35.900 | 35.900 | 35.899 | 35.895 | 35.865 | 35.671 | 35.243 | 35.059 | 35.016 | 34.955 |
| SDEV | .132 | .134 | .128 | .124 | .122 | .120 | .183 | .212 | .134 | .100 | .038 |
| N | 61 | 60 | 60 | 60 | 60 | 59 | 57 | 55 | 53 | 51 | 22 |
| **APR** | | | | | | | | | | | |
| AVE | 35.834 | 35.852 | 35.857 | 35.862 | 35.858 | 35.807 | 35.500 | 35.077 | 34.985 | 34.979 | 34.946 |
| SDEV | .262 | .215 | .182 | .131 | .123 | .127 | .186 | .105 | .042 | .028 | .018 |
| N | 92 | 92 | 93 | 93 | 93 | 93 | 92 | 92 | 91 | 87 | 68 |
| **MAY** | | | | | | | | | | | |
| AVE | 35.908 | 35.914 | 35.908 | 35.905 | 35.900 | 35.845 | 35.557 | 35.169 | 35.039 | 35.007 | 34.954 |
| SDEV | .120 | .124 | .119 | .105 | .094 | .092 | .160 | .164 | .102 | .065 | .026 |
| N | 103 | 105 | 105 | 105 | 105 | 105 | 102 | 101 | 100 | 98 | 63 |
| **JUN** | | | | | | | | | | | |
| AVE | 35.706 | 35.805 | 35.873 | 35.891 | 35.879 | 35.819 | 35.562 | 35.186 | 35.030 | 35.000 | 34.955 |
| SDEV | .301 | .242 | .228 | .229 | .227 | .198 | .274 | .154 | .068 | .046 | .018 |
| N | 98 | 96 | 99 | 99 | 99 | 99 | 97 | 94 | 89 | 88 | 57 |
| **JUL** | | | | | | | | | | | |
| AVE | 35.420 | 35.780 | 35.948 | 35.977 | 35.968 | 35.862 | 35.582 | 35.182 | 35.050 | 35.024 | 34.960 |
| SDEV | .627 | .281 | .266 | .211 | .181 | .177 | .211 | .141 | .079 | .048 | .018 |
| N | 123 | 122 | 123 | 123 | 123 | 123 | 123 | 122 | 120 | 118 | 82 |
| **AUG** | | | | | | | | | | | |
| AVE | 35.395 | 35.610 | 35.967 | 36.023 | 36.000 | 35.886 | 35.571 | 35.169 | 35.058 | 35.020 | 34.961 |
| SDEV | .348 | .286 | .266 | .229 | .224 | .192 | .191 | .141 | .074 | .046 | .020 |
| N | 103 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 105 | 76 |
| **SEP** | | | | | | | | | | | |
| AVE | 35.340 | 35.499 | 35.983 | 36.105 | 36.114 | 35.895 | 35.546 | 35.140 | 35.022 | 34.998 | 34.955 |
| SDEV | .412 | .345 | .250 | .191 | .192 | .116 | .143 | .127 | .062 | .034 | .019 |
| N | 94 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 94 | 59 |
| **OCT** | | | | | | | | | | | |
| AVE | 35.444 | 35.518 | 35.662 | 35.922 | 35.969 | 35.826 | 35.488 | 35.137 | 35.060 | 35.038 | 34.962 |
| SDEV | .374 | .283 | .263 | .264 | .262 | .203 | .177 | .122 | .083 | .061 | .023 |
| N | 125 | 124 | 126 | 126 | 125 | 124 | 124 | 124 | 122 | 118 | 85 |
| **NOV** | | | | | | | | | | | |
| AVE | 35.738 | 35.668 | 35.696 | 35.839 | 35.946 | 35.822 | 35.437 | 35.099 | 35.041 | 35.014 | 34.957 |
| SDEV | .220 | .206 | .232 | .256 | .234 | .152 | .192 | .146 | .077 | .051 | .029 |
| N | 96 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 50 | 49 | 28 |
| **DEC** | | | | | | | | | | | |
| AVE | 35.667 | 35.717 | 35.794 | 35.847 | 35.895 | 35.892 | 35.611 | 35.208 | 35.043 | 35.011 | 34.951 |
| SDEV | .330 | .262 | .171 | .152 | .162 | .161 | .176 | .170 | .084 | .064 | .035 |
| N | 70 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 62 | 61 | 36 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - DELTA

PARAMETER : SIG-THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 26.662 | 26.668 | 26.672 | 26.685 | 26.707 | 26.824 | 26.997 | 27.253 | 27.534 | 27.674 | 27.777 |
| SDEV | .182 | .190 | .182 | .169 | .150 | .092 | .094 | .099 | .073 | .043 | .020 |
| N | 46 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 40 | 38 | 17 |
| FEB | | | | | | | | | | | |
| AVE | 26.832 | 26.837 | 26.843 | 26.845 | 26.848 | 26.861 | 26.930 | 27.144 | 27.444 | 27.650 | 27.789 |
| SDEV | .041 | .031 | .035 | .036 | .036 | .040 | .084 | .142 | .113 | .050 | .021 |
| N | 54 | 55 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 54 | 41 |
| MAR | | | | | | | | | | | |
| AVE | 26.845 | 26.850 | 26.856 | 26.865 | 26.871 | 26.901 | 27.010 | 27.244 | 27.518 | 27.658 | 27.762 |
| SDEV | .080 | .079 | .082 | .080 | .080 | .082 | .116 | .153 | .091 | .074 | .023 |
| N | 61 | 60 | 60 | 60 | 60 | 59 | 57 | 55 | 53 | 51 | 22 |
| APR | | | | | | | | | | | |
| AVE | 26.853 | 26.880 | 26.896 | 26.908 | 26.916 | 26.945 | 27.058 | 27.344 | 27.593 | 27.702 | 27.780 |
| SDEV | .110 | .084 | .071 | .067 | .065 | .057 | .077 | .083 | .046 | .025 | .009 |
| N | 92 | 92 | 93 | 93 | 93 | 93 | 92 | 92 | 91 | 87 | 60 |
| MAY | | | | | | | | | | | |
| AVE | 26.717 | 26.776 | 26.821 | 26.848 | 26.870 | 26.923 | 27.053 | 27.343 | 27.583 | 27.696 | 27.782 |
| SDEV | .171 | .111 | .090 | .079 | .069 | .053 | .069 | .097 | .069 | .052 | .015 |
| N | 103 | 105 | 105 | 105 | 105 | 105 | 102 | 101 | 100 | 98 | 63 |
| JUN | | | | | | | | | | | |
| AVE | 26.258 | 26.451 | 26.685 | 26.754 | 26.798 | 26.886 | 27.033 | 27.285 | 27.532 | 27.670 | 27.779 |
| SDEV | .320 | .238 | .155 | .142 | .140 | .125 | .148 | .167 | .137 | .101 | .015 |
| N | 98 | 96 | 99 | 99 | 99 | 99 | 97 | 94 | 89 | 88 | 57 |
| JUL | | | | | | | | | | | |
| AVE | 25.441 | 25.941 | 26.488 | 26.671 | 26.745 | 26.860 | 27.024 | 27.300 | 27.563 | 27.691 | 27.779 |
| SDEV | .474 | .441 | .269 | .125 | .090 | .069 | .087 | .112 | .079 | .048 | .014 |
| N | 123 | 122 | 123 | 123 | 123 | 123 | 123 | 122 | 120 | 118 | 82 |
| AUG | | | | | | | | | | | |
| AVE | 25.233 | 25.612 | 26.420 | 26.644 | 26.736 | 26.867 | 27.024 | 27.304 | 27.571 | 27.696 | 27.783 |
| SDEV | .411 | .429 | .322 | .191 | .132 | .095 | .103 | .113 | .087 | .046 | .013 |
| N | 103 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 105 | 76 |
| SEP | | | | | | | | | | | |
| AVE | 24.962 | 25.178 | 26.090 | 26.468 | 26.620 | 26.808 | 27.021 | 27.306 | 27.566 | 27.698 | 27.780 |
| SDEV | .438 | .408 | .311 | .194 | .126 | .078 | .065 | .100 | .081 | .033 | .012 |
| N | 94 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 94 | 59 |
| OCT | | | | | | | | | | | |
| AVE | 25.672 | 25.722 | 25.894 | 26.361 | 26.627 | 26.833 | 27.040 | 27.325 | 27.567 | 27.687 | 27.788 |
| SDEV | .365 | .317 | .251 | .286 | .206 | .154 | .128 | .154 | .141 | .107 | .026 |
| N | 125 | 124 | 126 | 126 | 125 | 124 | 124 | 124 | 122 | 118 | 85 |
| NOV | | | | | | | | | | | |
| AVE | 26.205 | 26.128 | 26.204 | 26.389 | 26.631 | 26.865 | 27.086 | 27.372 | 27.603 | 27.701 | 27.786 |
| SDEV | .297 | .354 | .299 | .255 | .181 | .108 | .096 | .121 | .093 | .059 | .024 |
| N | 96 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 50 | 49 | 28 |
| DEC | | | | | | | | | | | |
| AVE | 26.406 | 26.415 | 26.473 | 26.535 | 26.601 | 26.813 | 27.011 | 27.265 | 27.535 | 27.680 | 27.777 |
| SDEV | .356 | .321 | .270 | .227 | .186 | .082 | .086 | .106 | .075 | .035 | .020 |
| N | 70 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 62 | 61 | 36 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - ECHO

PARAMETER : THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 18.531 | 18.451 | 18.437 | 18.380 | 18.286 | 17.597 | 16.011 | 12.814 | 9.089 | 6.558 | 4.403 |
| SDEV | .523 | .550 | .542 | .528 | .523 | .448 | .915 | 1.041 | .969 | .622 | .225 |
| N | 88 | 71 | 72 | 72 | 71 | 71 | 70 | 69 | 68 | 65 | 48 |
| FEB | | | | | | | | | | | |
| AVE | 17.932 | 17.871 | 17.826 | 17.768 | 17.733 | 17.367 | 15.771 | 12.593 | 9.116 | 6.631 | 4.342 |
| SDEV | .559 | .563 | .555 | .537 | .516 | .531 | 1.057 | 1.564 | 1.657 | 1.022 | .348 |
| N | 70 | 71 | 72 | 72 | 71 | 66 | 65 | 64 | 63 | 57 | 35 |
| MAR | | | | | | | | | | | |
| AVE | 17.520 | 17.422 | 17.347 | 17.274 | 17.221 | 16.931 | 15.476 | 12.375 | 8.831 | 6.409 | 4.370 |
| SDEV | .478 | .492 | .485 | .476 | .470 | .487 | 1.397 | 1.962 | 1.815 | 1.177 | .560 |
| N | 128 | 123 | 123 | 123 | 123 | 120 | 117 | 114 | 112 | 110 | 67 |
| APR | | | | | | | | | | | |
| AVE | 17.785 | 17.540 | 17.337 | 17.207 | 17.125 | 16.933 | 15.820 | 13.055 | 9.123 | 6.396 | 4.285 |
| SDEV | .619 | .520 | .433 | .382 | .343 | .302 | .670 | .983 | 1.112 | .632 | .162 |
| N | 229 | 210 | 210 | 210 | 211 | 208 | 207 | 206 | 203 | 200 | 165 |
| MAY | | | | | | | | | | | |
| AVE | 19.114 | 18.402 | 17.754 | 17.439 | 17.292 | 16.943 | 15.750 | 13.094 | 9.252 | 6.524 | 4.338 |
| SDEV | .829 | .669 | .460 | .353 | .315 | .303 | .744 | .933 | .970 | .599 | .160 |
| N | 266 | 266 | 266 | 266 | 266 | 262 | 259 | 250 | 245 | 241 | 193 |
| JUN | | | | | | | | | | | |
| AVE | 21.511 | 19.838 | 17.998 | 17.315 | 17.048 | 16.342 | 14.539 | 11.603 | 8.462 | 6.232 | 4.177 |
| SDEV | 1.367 | 1.023 | .875 | .692 | .635 | .785 | 1.467 | 1.902 | 1.416 | .714 | .203 |
| N | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 229 | 222 | 220 | 185 |
| JUL | | | | | | | | | | | |
| AVE | 24.529 | 22.241 | 19.335 | 18.102 | 17.606 | 16.786 | 14.851 | 11.685 | 8.368 | 6.362 | 4.320 |
| SDEV | .966 | 1.177 | 1.098 | .926 | .794 | .761 | 1.280 | 1.566 | 1.253 | .848 | .365 |
| N | 129 | 127 | 127 | 126 | 126 | 124 | 122 | 119 | 115 | 103 | 63 |
| AUG | | | | | | | | | | | |
| AVE | 25.725 | 23.972 | 20.472 | 18.729 | 17.970 | 16.994 | 15.350 | 12.441 | 8.970 | 6.562 | 4.369 |
| SDEV | .979 | 1.446 | 1.275 | 1.094 | .982 | .875 | 1.254 | 1.433 | 1.162 | .829 | .233 |
| N | 126 | 126 | 126 | 126 | 126 | 126 | 126 | 124 | 124 | 119 | 68 |
| SEP | | | | | | | | | | | |
| AVE | 25.165 | 24.465 | 21.582 | 19.464 | 18.545 | 17.423 | 16.037 | 13.285 | 9.619 | 6.627 | 4.316 |
| SDEV | 1.047 | .919 | 1.364 | 1.295 | 1.040 | .550 | .834 | 1.038 | 1.167 | .753 | .196 |
| N | 114 | 114 | 115 | 115 | 115 | 114 | 114 | 113 | 113 | 116 | 87 |
| OCT | | | | | | | | | | | |
| AVE | 23.028 | 22.963 | 22.164 | 19.561 | 18.298 | 16.953 | 15.067 | 11.676 | 7.899 | 5.779 | 4.088 |
| SDEV | 1.090 | 1.141 | 1.259 | .988 | .799 | .902 | 1.594 | 1.809 | 1.401 | .640 | .152 |
| N | 133 | 124 | 124 | 124 | 123 | 123 | 118 | 118 | 116 | 117 | 82 |
| NOV | | | | | | | | | | | |
| AVE | 20.770 | 20.713 | 20.462 | 19.696 | 18.527 | 16.918 | 14.909 | 11.630 | 8.126 | 5.984 | 4.153 |
| SDEV | .614 | .639 | .855 | 1.251 | 1.187 | .795 | 1.406 | 1.629 | 1.058 | .552 | .149 |
| N | 103 | 99 | 99 | 99 | 99 | 99 | 99 | 98 | 97 | 95 | 64 |
| DEC | | | | | | | | | | | |
| AVE | 19.789 | 19.636 | 19.597 | 19.431 | 18.864 | 17.217 | 15.062 | 11.799 | 8.384 | 6.253 | 4.313 |
| SDEV | .837 | .789 | .779 | .776 | .840 | .747 | 1.181 | 1.462 | 1.006 | .424 | .251 |
| N | 71 | 60 | 60 | 61 | 61 | 61 | 59 | 57 | 53 | 46 | 25 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - ECHO

PARAMETER : SALINITY

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | | | | | | | | | | | |
| AVE | 36.401 | 36.416 | 36.416 | 36.415 | 36.419 | 36.430 | 36.195 | 35.685 | 35.258 | 35.128 | 35.029 |
| SDEV | .051 | .050 | .049 | .047 | .048 | .060 | .148 | .152 | .099 | .057 | .031 |
| N | 88 | 71 | 72 | 72 | 71 | 71 | 70 | 69 | 68 | 65 | 48 |
| FEB | | | | | | | | | | | |
| AVE | 36.406 | 36.407 | 36.406 | 36.406 | 36.404 | 36.384 | 36.161 | 35.672 | 35.299 | 35.147 | 35.025 |
| SDEV | .072 | .070 | .069 | .065 | .062 | .073 | .176 | .220 | .169 | .095 | .044 |
| N | 70 | 71 | 72 | 72 | 71 | 66 | 65 | 64 | 63 | 57 | 35 |
| MAR | | | | | | | | | | | |
| AVE | 36.391 | 36.388 | 36.386 | 36.383 | 36.381 | 36.360 | 36.135 | 35.650 | 35.256 | 35.119 | 35.026 |
| SDEV | .070 | .067 | .062 | .063 | .062 | .075 | .257 | .304 | .183 | .113 | .055 |
| N | 128 | 123 | 123 | 123 | 123 | 120 | 117 | 114 | 112 | 110 | 67 |
| APR | | | | | | | | | | | |
| AVE | 36.396 | 36.403 | 36.406 | 36.403 | 36.401 | 36.385 | 36.186 | 35.706 | 35.236 | 35.108 | 35.029 |
| SDEV | .058 | .047 | .041 | .036 | .035 | .050 | .148 | .164 | .124 | .075 | .031 |
| N | 229 | 210 | 210 | 210 | 211 | 208 | 207 | 206 | 203 | 200 | 165 |
| MAY | | | | | | | | | | | |
| AVE | 36.408 | 36.404 | 36.407 | 36.408 | 36.405 | 36.377 | 36.169 | 35.722 | 35.247 | 35.112 | 35.024 |
| SDEV | .091 | .059 | .053 | .045 | .046 | .062 | .143 | .145 | .101 | .074 | .027 |
| N | 266 | 266 | 266 | 266 | 266 | 262 | 259 | 250 | 245 | 241 | 193 |
| JUN | | | | | | | | | | | |
| AVE | 36.424 | 36.384 | 36.365 | 36.367 | 36.355 | 36.262 | 35.975 | 35.548 | 35.261 | 35.141 | 35.021 |
| SDEV | .154 | .118 | .107 | .093 | .090 | .128 | .255 | .265 | .106 | .052 | .028 |
| N | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 229 | 222 | 220 | 185 |
| JUL | | | | | | | | | | | |
| AVE | 36.430 | 36.426 | 36.425 | 36.412 | 36.405 | 36.323 | 36.012 | 35.557 | 35.242 | 35.147 | 35.024 |
| SDEV | .170 | .155 | .112 | .091 | .085 | .104 | .218 | .209 | .118 | .072 | .037 |
| N | 129 | 127 | 127 | 126 | 126 | 124 | 122 | 119 | 115 | 103 | 63 |
| AUG | | | | | | | | | | | |
| AVE | 36.311 | 36.357 | 36.418 | 36.428 | 36.423 | 36.349 | 36.094 | 35.660 | 35.291 | 35.141 | 35.032 |
| SDEV | .221 | .151 | .098 | .087 | .082 | .110 | .212 | .182 | .094 | .074 | .026 |
| N | 126 | 126 | 126 | 126 | 126 | 126 | 126 | 124 | 124 | 119 | 68 |
| SEP | | | | | | | | | | | |
| AVE | 36.117 | 36.170 | 36.345 | 36.436 | 36.463 | 36.428 | 36.212 | 35.763 | 35.324 | 35.131 | 35.019 |
| SDEV | .274 | .266 | .173 | .104 | .075 | .075 | .162 | .158 | .123 | .074 | .023 |
| N | 114 | 114 | 115 | 115 | 115 | 114 | 114 | 113 | 113 | 116 | 87 |
| OCT | | | | | | | | | | | |
| AVE | 36.134 | 36.179 | 36.280 | 36.376 | 36.406 | 36.347 | 36.047 | 35.538 | 35.174 | 35.081 | 35.003 |
| SDEV | .204 | .163 | .136 | .169 | .148 | .166 | .277 | .236 | .108 | .041 | .025 |
| N | 133 | 124 | 124 | 124 | 123 | 123 | 118 | 118 | 116 | 117 | 82 |
| NOV | | | | | | | | | | | |
| AVE | 36.319 | 36.323 | 36.328 | 36.362 | 36.420 | 36.349 | 36.031 | 35.541 | 35.213 | 35.119 | 35.024 |
| SDEV | .095 | .095 | .086 | .088 | .099 | .141 | .255 | .209 | .085 | .077 | .050 |
| N | 103 | 99 | 99 | 99 | 99 | 99 | 99 | 98 | 97 | 95 | 64 |
| DEC | | | | | | | | | | | |
| AVE | 36.335 | 36.342 | 36.347 | 36.366 | 36.393 | 36.377 | 36.045 | 35.559 | 35.219 | 35.117 | 35.015 |
| SDEV | .065 | .071 | .073 | .074 | .071 | .097 | .186 | .190 | .080 | .053 | .023 |
| N | 71 | 60 | 60 | 61 | 61 | 61 | 59 | 57 | 53 | 46 | 25 |

MONTHLY BOTTLE DATA STATISTICS FOR OWS - ECHO

PARAMETER : SIG-THETA

| DEPTH | 0 | 25 | 50 | 75 | 100 | 200 | 400 | 600 | 800 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **JAN** | | | | | | | | | | | |
| AVE | 26.227 | 26.258 | 26.262 | 26.276 | 26.302 | 26.482 | 26.676 | 26.967 | 27.312 | 27.596 | 27.786 |
| SDEV | .130 | .128 | .126 | .123 | .118 | .084 | .097 | .090 | .097 | .060 | .025 |
| N | 88 | 71 | 72 | 72 | 71 | 71 | 70 | 69 | 68 | 65 | 48 |
| **FEB** | | | | | | | | | | | |
| AVE | 26.381 | 26.397 | 26.407 | 26.421 | 26.429 | 26.502 | 26.701 | 26.992 | 27.324 | 27.591 | 27.787 |
| SDEV | .113 | .116 | .116 | .113 | .111 | .091 | .103 | .136 | .154 | .096 | .024 |
| N | 70 | 71 | 72 | 72 | 71 | 66 | 65 | 64 | 63 | 57 | 35 |
| **MAR** | | | | | | | | | | | |
| AVE | 26.471 | 26.492 | 26.509 | 26.524 | 26.535 | 26.586 | 26.739 | 27.005 | 27.330 | 27.593 | 27.781 |
| SDEV | .107 | .108 | .108 | .104 | .101 | .080 | .116 | .173 | .170 | .115 | .052 |
| N | 128 | 123 | 123 | 123 | 123 | 120 | 117 | 114 | 112 | 110 | 67 |
| **APR** | | | | | | | | | | | |
| AVE | 26.410 | 26.475 | 26.527 | 26.557 | 26.575 | 26.609 | 26.715 | 26.940 | 27.292 | 27.602 | 27.799 |
| SDEV | .151 | .123 | .101 | .090 | .082 | .064 | .080 | .103 | .108 | .066 | .026 |
| N | 229 | 210 | 210 | 210 | 211 | 208 | 207 | 206 | 203 | 200 | 165 |
| **MAY** | | | | | | | | | | | |
| AVE | 26.082 | 26.260 | 26.425 | 26.504 | 26.538 | 26.601 | 26.718 | 26.944 | 27.280 | 27.588 | 27.790 |
| SDEV | .223 | .169 | .112 | .082 | .071 | .053 | .065 | .084 | .097 | .065 | .017 |
| N | 266 | 266 | 266 | 266 | 266 | 262 | 259 | 250 | 245 | 241 | 193 |
| **JUN** | | | | | | | | | | | |
| AVE | 25.447 | 25.871 | 26.330 | 26.501 | 26.558 | 26.652 | 26.830 | 27.088 | 27.413 | 27.649 | 27.804 |
| SDEV | .363 | .247 | .172 | .115 | .096 | .093 | .131 | .166 | .158 | .080 | .018 |
| N | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 229 | 222 | 220 | 185 |
| **JUL** | | | | | | | | | | | |
| AVE | 24.581 | 25.243 | 26.033 | 26.339 | 26.458 | 26.593 | 26.790 | 27.078 | 27.409 | 27.632 | 27.788 |
| SDEV | .276 | .317 | .257 | .216 | .185 | .147 | .129 | .141 | .131 | .087 | .032 |
| N | 129 | 127 | 127 | 126 | 126 | 124 | 122 | 119 | 115 | 103 | 63 |
| **AUG** | | | | | | | | | | | |
| AVE | 24.125 | 24.684 | 25.722 | 26.191 | 26.379 | 26.560 | 26.740 | 27.012 | 27.345 | 27.597 | 27.790 |
| SDEV | .335 | .445 | .356 | .304 | .278 | .235 | .187 | .181 | .161 | .109 | .022 |
| N | 126 | 126 | 126 | 126 | 126 | 126 | 126 | 124 | 124 | 119 | 68 |
| **SEP** | | | | | | | | | | | |
| AVE | 24.150 | 24.401 | 25.364 | 26.007 | 26.267 | 26.521 | 26.681 | 26.931 | 27.269 | 27.585 | 27.788 |
| SDEV | .311 | .305 | .454 | .377 | .288 | .178 | .120 | .101 | .118 | .081 | .021 |
| N | 114 | 114 | 115 | 115 | 115 | 114 | 114 | 113 | 113 | 116 | 87 |
| **OCT** | | | | | | | | | | | |
| AVE | 24.800 | 24.852 | 25.154 | 25.938 | 26.287 | 26.572 | 26.767 | 27.062 | 27.424 | 27.661 | 27.799 |
| SDEV | .395 | .381 | .399 | .252 | .133 | .094 | .136 | .156 | .141 | .077 | .025 |
| N | 133 | 124 | 124 | 124 | 123 | 123 | 118 | 118 | 116 | 117 | 82 |
| **NOV** | | | | | | | | | | | |
| AVE | 25.577 | 25.595 | 25.665 | 25.891 | 26.237 | 26.582 | 26.793 | 27.077 | 27.429 | 27.666 | 27.809 |
| SDEV | .154 | .156 | .227 | .332 | .292 | .095 | .120 | .152 | .122 | .061 | .037 |
| N | 103 | 99 | 99 | 99 | 99 | 99 | 99 | 98 | 97 | 95 | 64 |
| **DEC** | | | | | | | | | | | |
| AVE | 25.850 | 25.896 | 25.910 | 25.968 | 26.133 | 26.532 | 26.771 | 27.059 | 27.390 | 27.627 | 27.782 |
| SDEV | .227 | .210 | .203 | .198 | .210 | .119 | .125 | .137 | .118 | .063 | .025 |
| N | 71 | 60 | 60 | 61 | 61 | 61 | 59 | 57 | 53 | 46 | 25 |